BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

---- In the Matter of ----	)	
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PUBLIC UTILITIES COMMISSION	)	DOCKET NO. 2019-0323
	)	
Instituting a Proceeding to	)	
Investigate Distributed	)	
Energy Resource Policies	)	
Pertaining To The Hawaiian	)	
Electric Companies.	)	
	)	

DECISION AND ORDER NO. 37816

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Instituting a Proceeding to Investigate Distributed Energy Resource Policies Pertaining To The Hawaiian Electric Companies.	)	DECISION AND ORDER NO. 37816

DECISION AND ORDER

By this Decision and Order,[1] the Public Utilities Commission ("Commission") approves an Emergency Demand Response Program ("EDRP"), the Scheduled Dispatch Program Rider ("SDP"),

[1]The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), MAUI ELECTRIC COMPANY, LIMITED ("MECO") (collectively, HECO, HELCO, and MECO are referred to as "Hawaiian Electric" or "the Companies") and the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY (the "Consumer Advocate"), an ex officio party, pursuant to Hawaii Revised Statutes § 269-51 and Hawaii Administrative Rules § 16-601-62(a). In addition, the Commission has granted Intervenor status to the HAWAII PV COALITION, the DISTRIBUTED ENERGY RESOURCES COUNCIL OF HAWAII, and the HAWAII SOLAR ENERGY ASSOCIATION. Order No. 36777, "(1) Granting Motions to Intervene Filed By Hawaii PV Coalition, Distributed Energy Resources Council Of Hawaii, And Hawaii Solar Energy Association; (2) Dismissing Without Prejudice The Motion To Participate Filed By Itron, Inc.; (3) Enlarging Time For Itron, Inc. To File A Motion To Participate; And (4) Addressing Other Preliminary Matters," filed November 15, 2019.

to address the immediate need to mitigate possible resource shortfalls following the September 2022 retirement of the AES coal plant on Oahu.[2]

I.

RELEVANT BACKGROUND

On March 9, 2021, the Commission issued a Notice of Status Conference[3] wherein it provided that it would:

> hold a Status Conference to (1) review Hawaiian Electric's Initial Update ("Initial Update") regarding the transition plan for the retirement of the AES coal plant on Oahu ("AES Plant"), filed on March 5, 2021, in Docket No. 2021-0024, (2) receive an update from the Hawaii Natural Energy Institute ("HNEI") on modeling system reliability with retirement of the AES Plant, and (3) discuss action items with Phase 1 and 2 Oahu Project[] developers regarding acceleration of their Project commercial operations schedules by two discrete benchmarks - 3 and 6 months.[4]

Following the March 9, 2021 Status Conference, the Commission, in the March 17, 2021 Distributed Energy Resource Policies Program Track ("DER Program Track" or "Program Track") Monthly Meeting, requested that the Parties develop

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[2]The AES coal plant is operated by AES Corporation and is located in Kapolei.

[3]Letter From: Commission To: Service Lists Re: Notice of Status Conference on Tuesday, March 16, 2021, filed on March 9, 2021 ("Notice of March 16 Status Conference").

[4]Notice of March 16 Status Conference.

proposals for an EDRP to be included as an addition to Program Track Final Proposals.

On March 19, 2021, the Commission issued its Guidance for Development of an EDRP,[5] detailing the basic EDRP elements, which included specifics on the program design, program rollout and implementation, and next steps.[6]

Following its March 19, 2021 guidance, the Commission held a technical conference and a series of supplemental meetings to discuss its preliminary EDRP guidance in an effort to share information in as timely a manner as possible to support the Parties' efforts to incorporate this additional guidance into DER Program Track final proposals. These convenings included a Program Track Technical Conference held on March 24, 2021, pursuant to Order No. 37639,[7] at which the Commission welcomed the Parties to seek further guidance, identify initial concerns, and begin a dialogue about how to best develop and implement the EDRP.

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[5]Letter From: Commission To: Service List Re: Guidance for Development of an Emergency Demand Response Program and Notification of Additional Status Update Meetings, filed on March 19, 2021 ("EDRP Guidance").

[6]EDRP Guidance at 2-3.

[7]Order No. 37639, "Amending the Procedural Schedule," filed on February 23, 2021.

The Commission also hosted three supplemental meetings at which Parties were encouraged "to iterate on initial ideas, pose questions to the Commission for timely feedback, and to help surface additional information necessary to fully develop proposals."[8]

The first supplemental meeting was held on April 7, 2021, and the second was held on April 21, 2021, at which HNEI presented updated information on its AES coal plant retirement and replacement analysis.[9]

On May 3, 2021 the Parties submitted their DER Program Track Final Proposals, which included each Party's proposal for an EDRP.

On May 12, 2021, the Commission hosted the third and final supplemental meeting,[10] at which Parties discussed their Final Proposals (with specific focus on the EDRP component of the Final Proposals), identified remaining areas of concern, and offered final inputs to inform Commission decision-making.

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[8]EDRP Guidance at 3.

[9]"Grid Planning for a Modern Power System in Hawaii, AES Retirement & Replacement Analysis," (presented by the Hawaii Natural Energy Institute and Telos Energy on April 21, 2021), filed on April 20, 2021.

[10]Supplemental Meeting for DER Program Track of Docket No. 2019-0323, available at: https://www.youtube.com/watch?v=W2YAtAeAuI0.

II.

PARTY PROPOSALS

According to Hawaiian Electric's Final Proposal,[11] the Company met with the DER Parties and the Consumer Advocate outside of the procedural schedule of the DER Program Track, to discuss possible options for an EDRP. While the Parties each submitted Final Proposals inclusive of an array of DER programs, including EDRP offerings, the following discussion highlights only the EDRP component of the Parties' proposals.

Hawaiian Electric. Hawaiian Electric proposes three new programs to meet the emergency demand response ("DR") need. These EDRPs are presented collectively as the initial phase of Hawaiian Electric's Final Proposal for a longer-term Bring Your Own Device ("BYOD") program. The initial phase programs are Battery Only (scheduled dispatch), Solar + Battery (scheduled dispatch), and Fast DR (remote dispatch).

These initial phase programs each have incentive payments, and except for the Fast DR program proposal, rely on Hawaiian Electric's Net Present Value ("NPV") calculations to derive the incentive amount. Hawaiian Electric identifies that their proposed one-time incentive amount is a derived value that

[11] "Hawaiian Electric's DER Program Track Final Proposal," filed on May 3, 2021 ("HECO Final Proposal"), at 30.

results in a breakeven NPV, and explains "[t]his means that the incentives are maximized for the various scenarios to the point whereby there is no measurable net benefit or detriment in costs that are born by all other customers."[12] Hawaiian Electric provides that:

> [t]he metric of [NPV] is used to determine the net value to customers in 2021 dollars of 1) the benefit of the proposed grid service (measured by the avoided cost of the proposed grid service compared to a base case, offset by 2) the cost to customers for that service.[13]

The Fast DR incentive structure does not deviate from the program's existing payment scheme.

Hawaiian Electric estimates a not-to-exceed budget amount of $25,000,000, which would be recovered through the Demand Side Management ("DSM") surcharge, to implement the two initial phase BYOD programs.[14] Hawaiian Electric also notes that other offerings, such as Grid Service Purchase Agreements ("GSPAs"), energy efficiency, and a possible rooftop rental program also offer opportunities to fulfill the emergency DR need.[15]

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[12]HECO Final Proposal at 40.

[13]HECO Final Proposal 40 (citation omitted).

[14]HECO Final Proposal at 46.

[15]HECO Final Proposal at 5-6.

Participants in the initial Emergency DR ("EDR") phase of the long-term BYOD program who are delivering scheduled dispatch would be required to transition to a BYOD long-term solution with remote dispatch capability during the years of 2024 — 2025.[16]

Battery Only. The Battery Only program focuses on existing DER customers who, upon enrollment in this program, would be allowed to add a new battery to their existing system. To enroll their system into the Battery Only program, customers must agree to a ten-year commitment to discharge the battery in accordance with program terms.[17] The program terms include different discharge schemes for the two different time periods or phases of the program. During the first two years of the ten-year commitment (the initial scheduled-daily-dispatch phase), the enrolled battery would be scheduled to discharge on a daily basis during the evening peak. At the end of two years, customers would be transitioned out of the initial scheduled-daily-dispatch phase, and into a remote dispatch phase for the remaining 8 years of their commitment. In the remote dispatch phase, the customer's battery would be automatically enrolled in a remote dispatch BYOD program to finish the remainder of their ten-year commitment.

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[16]HECO Final Proposal at 35.

[17]HECO Final Proposal at 36.

Hawaiian Electric proposes a $500 per kilowatt ("kW") upfront incentive payment to be paid to customers who purchase a new battery and enroll their device in the Battery Only program. Enrollment in the Battery Only program constitutes agreement to the program's ten-year commitment. The customer would be limited to a maximum export from their system of 5kW and would not be permitted to add additional solar capacity to their system.

Solar + Battery. The Solar + Battery program is available to both existing (through their existing tariffs) and new DER customers. This program option is similar to the Battery Only offering, except that in this program, customers can also add solar generation in addition to added battery systems. Hawaiian Electric proposes that the program terms and discharge schemes for the Solar + Battery program be similar to those that are presented in their Battery Only program proposal (i.e., enrollment in the program constitutes agreement to a ten-year commitment, which will include two years of scheduled dispatch and eight years of remote dispatch). For both new and existing customers who enroll their systems into the Solar + Battery program, Hawaiian Electric proposes providing a $500/kW upfront incentive payment.

Hawaiian Electric articulates their belief that in order to implement the Solar + Battery program as presented, the Commission would need to consider a policy change, to "reopen

the [Net Energy Metering ("NEM")] program for a limited time and capacity to meet the immediate near-term EDR needs."[18] While Hawaiian Electric supports the continued closure of the NEM program, it notes that following discussions with the Parties, it believes that:

> the battery-only option does not provide sufficient economic incentive for large scale adoption . . . . and [Net Energy Metering Plus Non-Export ("NEM+")] is not always feasible because NEM and NEM+ systems are sometimes independent of each other. Thus[,] the existing NEM resource is unable to be shifted through the NEM+ system.[19]

If the Commission decides to reopen NEM, Hawaiian Electric suggests providing a 20-30 megawatt ("MW") cap and proposes an $80/kW upfront incentive payment for NEM customers who enroll in the Solar + Battery program.

Fast DR. Hawaiian Electric proposes to replace 2.5 MW of lost capacity in the existing Fast DR program and requests Commission approval to also expand the Fast DR program cap to 12 MW (from its current 7 MW allowed capacity). Hawaiian Electric notes that the program is under-enrolled as the current capacity reached in Fast DR is 4.5 MW (hence the "lost" 2.5 MW replacement request). Hawaiian Electric notes that it could utilize the existing $250/kW incentive payment structure to incent program participant

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[18]HECO Final Proposal at 37.

[19]HECO Final Proposal at 37.

enrollment, such that the full 7 MW capacity can be realized. Further, Hawaiian Electric proposes that it could reallocate its underspent DR incentive budget to fund the replenishment of the Fast DR program, as it currently underspends by over $750,000 annually, and can immediately "commence refocusing this funding to increase Fast DR back to its capacity."[20]

DER Parties. The DER Parties propose three new programs to meet the emergency DR need. These programs are Scheduled Dispatch (Load-Shift Peak Reduction), BYOD Level 1 (Load-Following Peak Reduction), and BYOD Level 2 (Remote Emergency Dispatch).[21] The DER Parties identify two of their proposed programs (Scheduled Dispatch and BYOD Level 1) as programs that could be launched immediately. The proposed programs are designed to be layered onto DER customers' underlying tariffs, as riders, and the three programs are flexible in that customers may progress into later programs as the DER Program offerings are made available (e.g., enabled by development of utility device

[20]HECO Final Proposal at 39.

[21]"Final Program Track and Emergency DR Program Proposals of Hawai'i Solar Energy Association, Hawai'i PV Coalition and Distributed Energy Resources Council; Appendices "A" to "D"; Declaration of Brian Gold; Declaration of Robert R. Mould; and Certificate of Service," filed on May 3, 2021 ("DER Parties' Final Proposal"), at 4.

communication and visibility capability), or may remain in the program in which the customer initially enrolled.

In the DER Parties' program framework, there is no automatic program enrollment (to an advanced program, made available at a later time) after an identified period of time has passed. Finally, the DER Parties utilized the RESOLVE model[22] to determine the proposed $750 per kWh upfront customer incentive, which they propose would be provided to program participants in exchange for enrolling the customer's battery in either of the two immediate-launch program offerings noted above. The DER Parties also contend that their proposed incentive amount is specifically supported by "(1) load shift/energy arbitrage value derived from RESOLVE analysis; (2) emergency capacity value provided by the Commission; and (3) a proxy value for benefits not accounted for in RESOLVE and as needed to mobilize the broad and rapid customer and market response to meet the emergency need."[23]

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[22]Using RESOLVE, the DER Parties performed a DER Freeze case and base case comparison, the results of which showed operational savings of over $437 million over a ten-year period on Oahu. The DER Parties then divided this number by the total battery energy capacity, which resulted in a value of $1558/kWh. The DER Parties then set their proposed upfront incentive amount at approximately half of this value to reflect a balance between sharing avoided cost savings with all ratepayers and stimulating a robust customer and market response. See DER Parties' Final Proposal at 19.

[23]DER Parties' Final Proposal at 16.

Ultimately, the $750/kWh incentive amount, the DER Parties believe, "is the amount necessary to motivate a Scheduled Dispatch customer to elect to install a battery and set it to fully dispatch on a daily basis[,]" and further state that "[a] reduction to this value will suppress market uptake."[24] The DER Parties contend that both programs should be immediately implementable upon approval by the Commission.

Scheduled Dispatch. Scheduled Dispatch is a program that focuses on adding customer battery storage, coupled with an ability to add limited solar capacity to a customer's existing system. Enrollment in the Scheduled Dispatch program constitutes agreement to a ten-year commitment, the first two years of which, the customer will be required to meet a pre-set kW discharge requirement (either to export or serve home load) over a two-hour period during the system peak. Upon the conclusion of the two-year period, customers enrolled in Scheduled Dispatch may remain in the program, or may migrate to BYOD Level 1, or BYOD Level 2 (when available).

The DER Parties propose that customers who enroll in the Scheduled Dispatch program "would receive an upfront incentive payment of $750/kWh in return for a commitment to operate their battery in accordance with the Scheduled Dispatch program terms;

[24]DER Parties' Final Proposal at 18.

and upon the conclusion of the two-year [EDR] need, either continuing to operate under Scheduled Dispatch, or opting into the BYOD Level 1 program until the end of the combined ten-year program term."[25]

BYOD Level 1. BYOD Level 1 is a program the DER Parties developed primarily for customers installing new solar generation plus battery storage systems. Customers in the BYOD Level 1 program would be provided an upfront incentive of $750/kWh for battery energy storage capacity for a ten-year commitment that would require the customer to charge their battery during the day and commit a specific amount of energy (kWh) discharge toward reducing load (via load following, so as to provide peak reduction services) during a 5-10 p.m. time period window.

Consumer Advocate. The Consumer Advocate proposes a portfolio approach, "which includes the consideration of new programs as well as the modification and expansion of existing programs,"[26] to meet the emergency DR need. The Consumer Advocate's proposed new programs are presented in two categories:

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[25]DER Parties' Final Proposal at 16.

[26]"Division of Consumer Advocacy's Program Track Final Proposals; and Certificate of Service," filed on May 3, 2021 (CA's Final Proposal"), at 9.

(1) export-only and (2) export and grid services.[27] The proposed program for the Consumer Advocate's export-only category is "a Time-of-Delivery ("TOD") rate for DER exports, with Critical Peak Value ("CPV") pricing" ("TOD + CPV").[28] The Consumer Advocate's proposals for its upfront compensation for export and grid services category are Scheduled Dispatch, Scheduled Dispatch + CPV, and Full Utility Dispatch Operation.[29] Collectively, the Consumer Advocate offers that its new program proposals can "address near-term EDR needs that would still be aligned with long-run DER program goals."[30]

Taken in total, the Consumer Advocate's general EDRP approach is that all options should be considered. To this end, the Consumer Advocate suggests that the Commission explore additional approaches to meet the emergency DR needs, including energy efficiency, the modification and expansion of existing DER programs, the modification of legacy DR programs, variations of Hawaiian Electric's rooftop rental demonstration, and grid service purchase agreements.

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[27]CA's Final Proposal at 29-37; "DER Program Track Supplemental Meeting; Division of Consumer Advocacy; Docket No. 2019-0323," filed on May 11, 2021 ("CA's Supplement").

[28]CA's Final Proposal at, 11 and 34.

[29]CA's Final Proposal at 11.

[30]CA's Final Proposal at 10.

Although the Consumer Advocate recommends a portfolio approach to EDRP development and deployment, the paragraphs that follow address three of the Consumer Advocate's new program proposals, namely Scheduled Dispatch, and Scheduled Dispatch + CPV. The Consumer Advocate notes its proposed CPV rate appears to be a novel programmatic approach worth additional discussion. As proposed, some of the Consumer Advocate's programs incorporate the use of TOD and/or CPV, thus the TOD + CPV proposal is briefly introduced below as well.

Export-Only Program/TOD + CPV. The Consumer Advocate's export-only program envisions the implementation of TOD + CPV rates to enable an export-only program, wherein price signals would guide customer behavior to address the reduction of peak load. The Consumer Advocate's proposal invites the Commission to consider the adoption of TOD rates, because such rates are time-varying and "reflect the differences in the marginal value based on the time the energy is exported[.]"[31] Additionally, the Consumer Advocate suggests that TOD rates should be the "basis for export-only compensation[,]"[32] and proposes coupling these

[31]CA's Final Proposal at 29.

[32]CA's Final Proposal at 29.

rates with a CPV rate[33] to make available a TOD + CPV export rate scheme,[34] thus enabling a TOD + CPV program. The Consumer Advocate presents the table[35] below, which depicts its proposed TOD (rates) + CPV (rate) for exported energy in dollars per kWh.[36]

TOD Periods	November through June	July through October
Mid-Day (11 am - 2 pm)	$0.0826	$0.0826
Evening Peak (6 pm - 10 pm)	$0.1286	$0.1768
All Other Hours	$0.1126	$0.1126
Critical Peak Value Hours	$0.801	

[33]The Consumer Advocate relied on their consultant, Synapse's, calculations to identify the CPV rate. Synapse developed the CPV rate by separating the capacity cost in half and assigning the first half to the hours between 80 percent and 95 percent of peak. The second half of the capacity costs are assigned to the CPV hours, which are expected to correspond to the 50 hours when load is above 95 percent of the peak load. The average value of exported energy during the CPV hours is $0.801/kWh. See CA's Supplement at 3.

[34]CA's Final Proposal at 29-31.

[35]The table depicts the comparison of TOD and CPV rates, which reflect rates depicted in the CA's Supplement, a filing prompted by Commissioner inquiries posed in the May 12, 2021 Supplemental Meeting. The Consumer Advocate explains the decrease by noting that "relative to earlier assumptions, the estimated capacity costs are now lower, primarily due to battery storage costs being lower than the proxy costs used in earlier analysis." See CA's Supplement at 2.

[36]CA's Final Proposal at 31.

Scheduled Operation. The Scheduled Operation program will be available to both current DER customers who install new batteries and new DER battery installations. Further, the program requires customers to charge their batteries daily at the "lowest-value" hours and dispatch their batteries for a two-hour period during the "highest-value" hours determined for each month. In return for a ten-year commitment to the aforementioned phasing, charging, and dispatching scheme, customers will receive an upfront enrollment incentive calculated to be equal to the 2025 present value to the utility system of ten years of this scheduled operation. Customers will have the option to transition to the Full Utility Dispatchable Operation program when it becomes available.

The Consumer Advocate proposes an upfront incentive payment amount of $554/kW, which assumes "12 percent roundtrip losses in the battery and allows for avoiding 4.4 percent transmission and distribution losses[,]"[37] and reflects the use of a two-hour duration battery.

Scheduled Operation + CPV. The Scheduled Operation + CPV program is a variant of the Scheduled Operation program and maintains the same basic program components as the aforementioned program. The variant

[37]CA's Final Proposal at 35.

introduced in this program is in the addition of a component that allows customers to earn additional payments by discharging to the grid during identified CPV events, at a rate of $291/kW. In the Scheduled Operation + CPV program, the Consumer Advocate proposes $372/kW as the upfront payment amount for scheduled operation of a two-hour battery. Thus, the Scheduled Operation + CPV program incentive (including the additional payment for CPV suggested at a rate of $291/kW), could have a value of about $663/kW with full participation.[38] The table below provides the Consumer Advocate's depiction of their comparison of payments for a two-hour duration battery.[39]

[38]CA's Final Proposal at 4.

[39]The table depicts the comparison of payments for a two-hour duration battery, which reflect payment amounts represented in the CA's Supplement, a filing prompted by Commissioner inquiries posed in the May 12, 2021 Supplemental Meeting. The Consumer Advocate explains the decrease by noting that "when the analysis is updated to align with the PPA costs provided by Hawaiian Electric, the net present value of compensation for the Scheduled Operation, Scheduled Operation + CPV, and Full Utility Dispatchable Operation is reduced by approximately 22 to 24 percent." See CA's Supplement at 4.

	Updated Analysis	Analysis Filed on May 3, 2021	Percent Change Updated-May 3/Updated
Scheduled Operation	$554/kW	$713/kW	-22%
Scheduled Operation + CPV	$372/kW upfront payment	$451/kW upfront payment	-18%
	$291/kW additional payment with full CPV participation	$412/kW additional payment with full CPV participation	-29%
	Total expected compensation (upfront payment + full CPV participation): $633/kW	Total expected compensation (upfront payment + full CPV participation): $864/kW	-23%
Full Utility Dispatchable Operation	$713/kW	$937/kW	-24%

III.

DISCUSSION

As part of the Parties' Final Proposals, the Commission asked each party to include a proposal for a near-term EDRP, meant to be operational by June 2022 (in addition to the DER Program proposals outlined in the Commission's prior guidance). In its request, the Commission outlined a target enrollment of 50 MW for the EDRP, and suggested that enrollment should be met by a BYOD-like model managed by Hawaiian Electric. Further, HNEI provided its analysis of the capacity need to the Parties during a supplemental meeting on April 21, 2021, and the Parties, according to Hawaiian Electric's final proposal,

met independently to discuss possible options for an EDRP that best met the Commission's directives and electrical grid capabilities. While none of the Parties' Final Proposals presented a stand-alone EDRP, and instead incorporated EDRP as a component of longer term DER program proposals, the Commission notes that the EDRP components still exhibited considerable alignment across the Parties' submissions. The Commission appreciates the Parties' efforts to present readily implementable EDRP options in response to the Commission's call for urgent action.

Party Alignment. The Parties' major areas of alignment were found in the various programs focused on scheduled dispatch, which included an upfront incentive payment to a customer who will purchase a battery and enroll their system into an EDRP for a ten-year commitment, the first two years of which will be dedicated to two-hour scheduled dispatch during a system peak period. Additionally, the Parties were aligned in presenting programs that will be available to both existing and new DER customers. The Parties each also presented EDRP options that included battery plus acquiring additional solar capacity options, albeit in different configurations and with different identified considerations. Finally, each of the Parties provided their EDRP proposals, as noted previously, in the context of a larger DER Program portfolio of options and acknowledged the need for

technology upgrades and communication protocol enhancements for the long-term components to be fully implemented.

The Commission notes the ongoing efforts Hawaiian Electric has undertaken in support of acquiring the necessary capabilities to implement a robust BYOD program and will address the full spectrum of DER Program proposals and the respective system technical protocols in a forthcoming order.

Reconciling Differences. The Commission notes that despite extensive collaboration and the substantial alignment noted above, the Parties' approaches differ in a few key areas, namely in their respective incentive payment methodologies and resulting amounts, customer eligibility, and program structure (particularly following the initial program period, and when new DER programs are established and available for transition). After review, the Commission finds that a program that has low implementation barriers, provides a motivating incentive structure, invites optimization of existing programmatic infrastructure, and lays a foundation upon which enhanced programs can be implemented, is the most prudent way forward given the urgency of the conditions presented by the retirement of the AES coal plant.

In the absence of clear alignment on the incentive payment methodology, and in consideration of market drivers, and the need to enroll customers expeditiously, the Commission

determines that an incentive "step down" approach to the SDP incentive offerings is reasonable. This approach offers higher compensation for early adopters. The Commission's intent in developing this structure is to incent immediate action/uptake, while also balancing program costs in a way that still encourages customers to enroll in SDP until the 50 MW capacity is filled. Additionally, the Commission considered the benefit of robust early customer enrollment so that Hawaiian Electric is able to gain experience in operating the new SDP resources with a substantial amount of capacity available. This "front-loading" is designed so that at the time of the AES coal plant retirement, Hawaiian Electric will benefit from sufficient experience with SDP to readily integrate this emergency solution into successful grid operations. The incentive structure is discussed in more detail below.

Recent Guidance and Related Considerations. In determining necessary components of the EDRP, the Commission paid particular attention to the overlapping nature of the separate Tracks[40] in the instant docket as well as the interdependencies and

[40]This docket has three tracks, the DER Program Track, into which this Order fits, the Technical Track, and the Advanced Rate Design Track (collectively called the "Tracks"). See Order No. 37066, "Establishing Procedural Details And Modifying Hawaiian Electric's Customer Grid Supply Plus Program For Hawaii Island," filed April 9, 2021.

complements between this and other docketed matters before the Commission. Namely, the Commission highlights its recent guidance issued in Docket No. 2020-0136, wherein it provided in D&O No. 37754 that:

> the addition of the [Battery Energy Storage System ("BESS")] Project, combined with the retirement of the [AES coal plant], should significantly improve system-level hosting capacity for DER on Oahu. This additional hosting capacity will allow more renewable energy to come online via customer-sited resources, further amplifying the benefits of the Project, which may be further improved by modifying program terms to facilitate more renewable energy production during the day when the Project will be charging. As a result, the Commission will require Hawaiian Electric to unlock grid constraints and align demand-side programs with the Project operations.[41]

In D&O No. 37754, the Commission went on to articulate Hawaiian Electric's need to remove daytime export restrictions for existing and new DER programs under consideration in the instant DER docket. While in this Order, the Commission is not deciding on removing daytime export restrictions directly, to underscore the import of this prior guidance, the Commission highlights that with the availability of a standalone grid-scale BESS, its expectation is that removing restrictions on DER exports for both current and new utility programs will be Hawaiian Electric's "default" position, and that in light of the new BESS resource,

[41]Docket No. 2020-0136, Decision and Order No. 37754, filed on April 29, 2021 ("D&O No. 37754"), at 113-114.

this "default" position would also extend to exports from DERs enrolled in GSPAs. Thus, future utility programs should have a default position of encouraging additional export of renewable energy during the day, which may require programmatic incentives and will certainly require the lifting of export restrictions. All of the efforts identified and others will be necessary to yield an end result that will move Hawaiian Electric more *toward* instead of *away from* the State's zero carbon and clean energy goals.[42]

At this time, the Commission is prioritizing meeting the urgent peak demand capacity needs via the SDP established herein. The Commission notes that expansion of the CBRE program and development of non-SDP DER programs will be addressed in subsequent orders, issued in the respective docketed proceedings. At present, the Commission further notes that it will also address removing restrictions on DER exports in a forthcoming order, taking into account the afore noted considerations and other relevant information supportive of addressing grid stability and system needs in as comprehensive a manner as possible. The Commission's directive in identifying recent guidance and relevant considerations is to encourage Hawaiian Electric's sharp focus on the interdependent nature of planning for a decarbonized economy and clean energy future. Achievement of lasting grid stability

[42]D&O No. 37754 at 113-115.

and reliability necessitates the development of new paradigms such that grid needs are met through the integration of efficiently and effectively deployed DER resources.

A.

Emergency Demand Response Program

Upon consideration of the Parties' Final Proposals, the details discussed in supplemental meetings and status conferences, and State energy and environmental policy, the Commission determines that the necessity of an EDRP is urgent, and that the projected forthcoming utility system reliability shortfalls will be best addressed by a coordinated and comprehensive approach. Thus, the Commission's approved EDRP includes both the encouragement to fully realize the permitted capacity of the Fast DR Program (to reach the currently allocated 7 MW capacity) and the implementation of a SDP, the details of which are discussed below. Hawaiian Electric shall provide an Implementation Plan, which will include drafts of the necessary tariff and contract amendments to the tariff to permit the inclusion of the following provisions as a part of the SDP.

1.

Scheduled Dispatch Program Design

Cost Recovery. Cost recovery should occur over the ten-year program period. The Companies shall propose an appropriate cost recovery mechanism, which will be filed in the SDP Implementation plan, as discussed below in Section 4.

Program start date. July 1, 2021, will be the start date for the SDP.

Enrollment Period. Customers may sign up for the SDP until capacity reaches 50 MW or until June 20, 2023, whichever comes first, unless otherwise ordered by the Commission. Enrollment in SDP is a ten-year commitment, the Initial Phase of which will end after December 31, 2023 (6 months to 30 months of Initial Phase commitment). Following the close of the initial phase on December 31, 2023, the final program phase will commence and will last the remaining period of the customer's participation agreement up to ten total years. During this final program phase, customers will have the option to transition to a next-generation BYOD program, the details of which will be defined in a forthcoming order.

Scheduled dispatch. Scheduled dispatch will be required through December 31, 2023, for one two-hour period each day for each participating customer, scheduled at such time that Hawaiian Electric will designate, which shall address the

identified system need. Hawaiian Electric will determine the time of each participant's two-hour dispatch period at the time of enrollment and may revise the scheduled time with reasonable notice. Dispatch is expected to be scheduled during the system peak as determined by Hawaiian Electric to meet system needs.

(1) Participating systems must be "hard scheduled" to dispatch battery-supplied energy (to either serve onsite load or export to the grid) over a two-hour period. Customers must commit to dispatch a certain kW level during the two-hour period, which will determine their upfront incentive amount.

(2) Customers shall be required to manage their DER systems to automatically prioritize battery charging during periods of substantial solar panel insolation in order to most reliably serve the two-hour battery discharge commitment as scheduled by Hawaiian Electric.

Additional Generation. To ensure that battery charging under the SDP is supplied from renewable sources, existing photovoltaic ("PV") customers may add up to 5 kW of post inverter alternating current generation capacity in coordination with their battery installation, without invalidating their underlying DER tariff enrollment agreement.

Customers without existing PV generation may also participate in SDP by installing new PV generation and battery

storage, both of which shall be required for new DER customers to be eligible for the upfront incentives. These new customers must install battery storage at the time of the PV system installation.

Hawaiian Electric may require customers to undergo a simplified interconnection review as a condition of adding additional generation capacity, but Hawaiian Electric shall complete the review within 30 days after receipt of the completed amendment forms.

Performance.

(1) Performance Auditing: In the event the utility identifies concerns with an SDP participant's system energy discharge performance, it may conduct a performance audit to monitor and document conditions. In such cases the customer must be notified at least 7 days before the audit is conducted. Performance Auditing may occur via the utility meter or from reviewing inverter data (if available). In the event the SDP customer fails the Performance Audit, they will receive notice of Failure to Perform.

(2) Failure to Perform: When a customer fails to perform, they will receive written notice and documentation of the failure explaining how their system failed to meet the requirements. The customer will have 30 days to cure. If the performance problems persist,

the customer may be charged up to $100 monthly until performance is rectified or until the delivered upfront compensation, prorated for performance until the failure to perform, based on a ten-year performance period, has been recovered.

Incentive payment and compensation structure. Hawaiian Electric customers shall receive an upfront program participation incentive payment upon commencement of scheduled battery discharge in accordance with the program. The customer incentive will be based on the committed capacity (kW) of discharge of the Customer's BESS to be maintained or exceeded for the scheduled two-hour period determined by Hawaiian Electric. The customer incentive will be $850/kW for the first 15 MW of enrolled participation on the Hawaiian Electric system. Thereafter, for the next 15 MW of enrolled participation on the system, the customer incentive will be $750/kW. Finally, for the remaining 20 MW of system enrollment, up to a maximum of 50 MW total system enrollment, the incentive will be $500/kW.

Payments shall be made directly to the customer or the DER system owner as identified in the participation application. Energy exported to the grid from the battery storage discharge will be compensated based on the terms of the participating customer's underlying DER tariff (e.g., NEM, CGS, CGS+, etc.).

2.

Scheduled Dispatch Program Participation Requirements

Participant eligibility. Existing customer-generators on any DER tariff (including commercial customers) who commit to the multi-phased ten-year SDP and add new battery storage system energy capacity that can be charged from their PV system are eligible to participate.

Similarly, new customer-generators who enroll in a DER tariff and commit to the multi-phased ten-year SDP and add new battery storage system energy capacity that can be charged from their PV system are eligible to participate.

All SDP participants, whether new or existing customer-generators, shall be permitted to export energy during the SDP-defined battery discharge period. Existing customer generators shall be permitted to export energy thusly, even if not otherwise permitted to do so in accordance with their underlying program or contract terms. The compensation of the underlying program or contract will, however, remain unchanged through enrollment in SDP.

Participation in the SDP will not prevent customers from being eligible to participate in other DR programs, provided provision of the services required by both programs is feasible.

Transition. After the end of the SDP (December 31, 2023), customers may either (a) continue to operate their system pursuant to the SDP schedule or (b) opt-in to an alternative dispatch program for the remainder of the ten-year participation obligation. Customers choosing option (b) must meet the eligibility requirements of the applicable alternative dispatch program.

Termination. SDP participants may terminate their ten-year participation agreement with 60 days prior notice of the date of termination provided to Hawaiian Electric. If the customer terminates participation in the SDP, the customer will be required to return to Hawaiian Electric a prorated portion of the upfront incentive payment received from Hawaiian Electric. The customer may retain a proration of their upfront incentive relative to the period from the date of commencement of SDP battery dispatch services to the date of termination. The customer must return a prorated amount based upon the period from the actual date of program termination to the date of the end of the ten-year commitment period as a fraction of the ten-year commitment period. Hawaiian Electric will bill the prorated amount to the customer, the payment of which must be made in full or otherwise arranged with Hawaiian Electric prior to termination. (Hawaiian Electric is not permitted to charge

interest to the customer if a payment plan is arranged for final payment to be made prior to one year after termination).

Change in account holder. Customers may terminate the agreement, as described above, or a new account holder may assume the SDP ten-year participation agreement in writing (no utility approval necessary).

3.

Fast DR

At this time, the Commission is not inclined to approve Hawaiian Electric's request to expand the Fast DR capacity to 12 MW. The Commission instead encourages the Companies to enhance program enrollment capacity and to expeditiously increase utilization of the program to reach its existing 7 MW capacity to ensure maximum ratepayer value. Hawaiian Electric shall provide the Commission with notice once the 7 MW capacity has been reached, and, shall at that time identify what, if any, unspent monthly incentive funds remain underspent.[43] The Commission will continue to monitor program utilization, and if a capacity expansion is necessary in the future, Hawaiian Electric may request said expansion at that time, and the Commission will consider the request anew.

[43]HECO Final Proposal at 38-39.

4.

Implementation

Hawaiian Electric shall submit to the Commission for review a SDP Implementation Plan, which shall identify the steps necessary to implement the SDP, provide a feasible schedule for program implementation, provide relevant supporting information, and provide drafts of necessary associated tariff amendments, contract amendments, and participation agreements and applications. Hawaiian Electric shall submit a cost recovery request that is amortized over the 10-year SDP/BYOD program period for the Commission's consideration. Hawaiian Electric shall also submit forecasted information identifying its projected timeline and funds expenditure to enhance the Fast DR program to its full 7 MW capacity. The forecast shall identify whether the associated incentives will be classified as "incremental" and recovered and/or reconciled through the DSM Surcharge, and the estimated timeline within which the replenishment would be complete. Hawaiian Electric shall file the SDP Implementation Plan and information regarding the Fast DR program with the Commission no later than June 18, 2021, to support a July 1, 2021 SDP launch date.

IV.

ORDERS

THE COMMISSION ORDERS:

1. Hawaiian Electric shall commence replacement activities as soon as possible to enhance the Fast DR program to its full 7 MW capacity.

2. To establish the Scheduled Dispatch Program by July 1, 2021, in accordance with the requirements provided herein, Hawaiian Electric, on or before June 18, 2021, shall file with the Commission its SDP Implementation Plan for review.

DONE at Honolulu, Hawaii June 8, 2021.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By _____
James P. Griffin, Chair

By _____
Jennifer M. Potter, Commissioner

APPROVED AS TO FORM:

_____
Rachel M. James
Commission Counsel

By _____
Leodoloff R. Asuncion, Jr., Commissioner

2019-0323.ljk

CERTIFICATE OF SERVICE

Pursuant to Order No. 37043, the foregoing order was served on the date it was uploaded to the Public Utilities Commission's Document Management System and served through the Document Management System's electronic Distribution List.

The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).